NORTH DAKOTA
DEPARTMENT of HEALTH

Health Alert Network

MAY 16, 2014

HEALTH ADVISORY

Health-care Providers Urged to Maintain a High Awareness for Measles

Background:

From January 1 through May 9, 2014, there have been 187 reports of confirmed measles cases in the United States. This is the highest number of cases reported in over 15 years for the same time period. The cases have been reported from 17 different states, with most cases reported from California, Ohio and New York City. Of the 187 cases, 43 were importations from other countries, of which 22 (51 percent) were from the Philippines. Eighty-nine percent (166) of cases have occurred in individuals who were either unvaccinated or had an unknown vaccination status. Among the 105 U.S. residents who were unvaccinated, 80 percent had philosophical objections to vaccination.

Diagnosis:

Measles is an acute disease characterized by fever, cough, coryza, conjunctivitis, and a maculopapular rash lasting more than three days. Healthcare providers should maintain a high awareness for measles among febrile patients with rash. Patients presenting clinical symptoms compatible with measles should be asked about recent travel abroad, contact with returning travelers, and their vaccination status should be verified. Measles cases have been initially misdiagnosed as Kawasaki disease, dengue, and scarlet fever, among other conditions, so healthcare providers should consider measles in the differential diagnosis of these diseases. The clinical case definition for measles is:

- A generalized, maculopapular rash lasting ≥ 3 days
- A temperature ≥ 101°F
- Cough, coryza, or conjunctivitis (the three Cs)

Transmission:

Measles transmission is primarily person to person via large respiratory droplets, but airborne transmission can occur. Respiratory droplets can remain infectious for approximately two hours in the environment. The incubation period for measles is usually 8 to 12 days, although symptoms may occur as early as seven or late as 21 days after exposure.

Although measles is no longer an endemic disease in the United States, it remains endemic in several countries of the world, including some countries in Europe. Large outbreaks currently are occurring in the Philippines and Southeast Asia. International travel highlights the ongoing risk of measles importations, the risk of spread in susceptible populations, and the need for a prompt and appropriate public health response to measles cases.

Because of the severity of the disease, people with measles commonly present to a physician's office or emergency room and pose a risk of transmission to other patients and health-care personnel in these and in inpatient hospital settings. Health-care providers should remain aware that measles cases may occur in their facility and that transmission risks can be minimized by ensuring that all health-care personnel have evidence of measles immunity and that appropriate infection control practices are followed. Evidence of natural measles infection, of measles immunity, or of receipt of two doses of measles vaccine should be documented for all health-care workers. Health-care facilities should consider recommending a dose of MMR vaccine for unvaccinated workers born before 1957 who are at risk for occupational exposure to measles and who do not have a history of measles disease or laboratory evidence of measles immunity.

To prevent transmission of measles in health-care settings, airborne infection control precautions should be followed stringently. Suspected measles patients (i.e., people with febrile rash illness) should be removed from emergency departments and clinic waiting areas as soon as they are identified, placed in a private room with door closed, and asked to wear a surgical mask, if tolerated. In hospital settings, patients with suspected measles should be placed immediately in an airborne infection (negative pressure) isolation room if one is available and, if possible, should not be sent to other parts of the hospital for examination or testing purposes.

Laboratory Testing:

Serological testing for measles is available from the North Dakota Department of Health (NDDoH) Division of Laboratory Services. IgM acute serum testing should be sent to the lab at onset of symptoms, along with a completed laboratory slip indicating vaccination history. Measles virus should also be isolated from clinical specimens, such as urine, nasal washes, or nasopharyngeal secretions. Specimens for rubella testing should be ordered simultaneously, as measles and rubella are clinically indistinguishable.

The simplest method of establishing the diagnosis of measles is testing for IgM antibody on a single serum specimen obtained during the first encounter with a person suspected of having the disease. The sensitivity of measles IgM varies and may be diminished during the first 72 hours after rash onset. If the lab result is returned negative but patient has a generalized rash lasting more than 72 hours, the measles IgM test should be repeated. International travel or contact with individuals who have recently traveled abroad should be taken into account when considering a diagnosis of measles.

Vaccination:

Two doses of measles vaccine, as a combination MMR or MMRV, separated by at least four weeks are routinely recommended for all children 12 months of age and older. MMR is routinely administered at 12 – 15 months of age and 4 – 6 years of age. Children are required to be age appropriately vaccinated with MMR for entry into childcare, kindergarten through twelfth grade, and college in North Dakota. Studies indicate that 99 percent of people who receive two doses of MMR are immune to measles. All adults born in 1957 and after should have documentation of at least one dose of MMR or other evidence of measles immunity. Birth before 1957 is generally considered acceptable evidence of immunity to measles for the general public.

Susceptible individuals with a known or highly probable exposure, depending on timing and age, can be treated with MMR vaccine or IG to prevent or modify measles. MMR vaccine, if administered within 72 hours of initial measles exposure, may provide some protection. IG is

indicated for susceptible household contacts of measles patients, particularly those for whom the risk of complications is increased and who cannot receive MMR vaccine (i.e., infants age 12 months or younger, pregnant women, or immunocompromised people). Vaccination should be offered at any interval following exposure in order to offer protection from future exposures. If administered within six days of exposure, IG can prevent or modify measles in a susceptible person. If IG is administered, health-care providers should delay MMR vaccination for five months. IG should not be administered within two weeks of prior MMR vaccination. More information about the Advisory Committee on Immunization Practices (ACIP) recommendations for measles vaccination and the elimination of measles can be found at www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm.

The high number of confirmed cases highlights the ongoing risk of measles in unvaccinated people, the risk that unvaccinated people pose by transmitting measles to others, including infants too young to be vaccinated and others medically contraindicated to be vaccinated. Maintaining high levels of vaccination is pertinent in controlling the spread of measles. Timely and aggressive application of isolation, quarantine (when needed), post exposure vaccination or immune globulin prophylaxis and other important control measures is critical.

International Travel:

Healthcare providers should encourage timely vaccination of everyone who plans to travel internationally and who don't have evidence of measles immunity. Infants ages six through 11 months should receive one dose of MMR vaccine. Two doses of MMR are recommended for travelers, ages 12 months and older, with a minimum interval of four weeks between doses.

Reporting:

Please heighten your suspicion of measles and report any suspect cases of measles immediately to the NDDoH. Do not wait for laboratory results to report suspected cases of measles. Timely reporting of suspected measles cases will allow the NDDoH to investigate cases and contacts, and make recommendations to reduce transmission in the community. As mandated by North Dakota law, any incidence of measles must immediately be reported to the NDDoH by phone at 701.328.2378 or toll free at 800.472.2180 or by confidential fax at 701.328.0355.

For general information about measles, visit the NDDoH website at www.ndhealth.gov/Disease/Documents/faqs/Measles.pdf. Pictures of individuals with measles can be found at www.cdc.gov/measles/about/photos.html.

Please contact the NDDoH Division of Disease Control at 701.328.2378 or toll-free at 800.472.2180 with any questions or concerns regarding this issue.

Categories of Health Alert messages:

- *Health Alert conveys the highest level of importance; warrants immediate action or attention.*
- *Health Advisory provides important information for a specific incident or situation; may not require immediate action.*
- *Health Update provides updated information regarding an incident or situation; no immediate action necessary.*
- *Health Information provides general information that is not necessarily considered to be of an emergent nature.*

This message is being sent to local public health units, clinics, hospitals, physicians, tribal health, North Dakota Nurses Association, North Dakota Long Term Care Association, North Dakota Healthcare Association, North Dakota Medical Association, and hospital public information officers.
\